AS

Notice of Allowability	Application No.	Applicant(s)	
	10/056,773	HOFMANN ET AL.	
	Examiner	Art Unit	
	Donald Heckenberg	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed on June 18, 2004*.

2. ☒ The allowed claim(s) is/are *5-36 (renumbered as 1-32)*.

3. ☒ The drawings filed on *June 5, 2002* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date --.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Lois Gianneschi (Applicant's Representative) on July 29, 2004.

IN THE CLAIMS

Claim 23, line 1, "26" has been deleted and replaced with -22-.

The following is a listing of all of the currently pending claims, including the amendment to claim 23 above.

1. Canceled.

2. Canceled.

3. Canceled.

4. Canceled.

5. (Previously presented) An ophthalmic mold comprising a shape memory polymer that is a copolymer of styrene and a vinyl compound.

6. (Previously presented) A mold in accordance with Claim 5 comprising a first member and a second member.

7. (Original) A mold in accordance with Claim 6 wherein said mold is prepared in a press and said second member of said mold is formed in a shape of a base curve element and said first member is formed in the shape of a front curve element.

8. (Original) A mold in accordance with Claim 7 wherein said press includes a core element which interacts with said base curve element and said front curve element.

9. (Original) A mold in accordance with Claim 8 wherein said base curve element and said front curve element are formed of a metal and wherein said base curve and said front curve elements have an optical forming surface whose root mean square surface roughness is no more than about 20 nanometers.

10. (Currently amended) A mold in accordance with Claim ~~7~~ 8 wherein said core element is provided by gas pressure.

11. (Currently amended) A mold in accordance with Claim 5 wherein a mold half of said shape memory polymer mold is prepared in ~~said~~ a press by the steps which comprise:

a) placing a preform of a shape memory polymer between a front curve or a base curve element and a core element;

b) heating said preform to a temperature at or above the glass transition temperature but below the decomposition temperature but below the decomposition temperature of said shape memory polymer;

c) providing a pressure sufficient to cause said shape memory polymer sheet to assume a shape of said front curve or base curve element;

d.) reducing the temperature of said formed shape memory polymer to below said glass transition temperature; and

e.) removing said formed shape memory polymer from said coining press.

12. (Original) A mold in accordance with Claim 11 wherein said temperature in said step (d) is reduced to ambient.

13. (Original) A mold in accordance with Claim 11 wherein said preform is a sheet of said shape memory polymer is disposed in a holder prior to said step (a) and said formed shape memory polymer is removed from said holder subsequent to said step (e).

14. (Previously presented) A mold in accordance with Claim 5 further comprising one or more mold members wherein at least one mold member is prepared in an agile tool, comprising adjustment means that are used to shape said mold member.

15. (Original) A mold in accordance with Claim 14 wherein said adjustment means is a plurality or an array of concentric tubes and said agile tool further comprises a deformable molding surface.

16. (Currently amended) A mold in accordance with Claim 14 wherein said ~~actuator~~ adjustment means is a plurality or an array of pins.

17. (Original) A mold in accordance with Claim 14 wherein said adjustment means is an array of heaters.

18. (Original) A mold in accordance with Claim 14 wherein said shape memory polymer halves are prepared in said agile tool by the steps which comprise:

a) contacting a sheet of a shape memory polymer between deformable molding surface, whose shape is defined by adjustment means, and a core element under a pressure sufficient to cause said shape memory polymer sheet to assume a shape of said front curve or base curve actuated surface at a temperature at or above the glass transition temperature but below the decomposition temperature of said shape memory polymer;

b) reducing the temperature of said formed shape memory polymer to below said glass transition temperature;

c) moving said core element out of contact with said sheet of said shape memory polymer; and

d) removing a contact lens mold half formed shape memory polymer from said agile tool.

19. (Original) A mold in accordance with Claim 18 wherein said sheet of said shape memory polymer is disposed in a holder prior to said step (a) and said formed shape memory polymer is removed from said holder subsequent to said step (d).

20. (Original) A mold in accordance with Claim 6 wherein at least one surface of at least one mold member is formed by gas pressure that presses the surface opposite said one surface against a surface of a press or agile tool.

21. (Original) A mold in accordance with Claim 20 wherein said surface of said agile tool is formed by a plurality of concentric tubes.

22. (Currently amended) A mold in accordance with Claim 5 wherein said mold is prepared ~~by said~~ by the steps which comprise:

a) disposing a sheet of a shape memory polymer upon an adjustment means, set to define a predetermined shape, said adjustment means being in a desired shape;

b) elevating the temperature of said sheet of said shape memory polymer to at least the glass transition temperature but below the decomposition temperature;

c) emitting a stream of gas at said sheet of said shape memory polymer at a pressure sufficient to cause a sheet of said shape memory polymer to form a shape of said actuator means;

d) reducing the temperature of said formed shape memory polymer to below said glass transition temperature

e) removing said formed shape memory polymer from atop said adjustment means.

23. (Currently amended) A mold in accordance with Claim ~~26~~ 22 wherein said ~~stream~~ reducing of temperature in step (d) is reduced to ambient.

24. (Original) A mold in accordance with Claim 22 including the step of creating a vacuum concurrent with step (c).

25. (Previously presented) A mold in accordance with Claim 5 that further comprises intrinsic actuators.

26. (Original) A mold in accordance with Claim 25, wherein said mold is prepared by the steps which comprise:

a.) compressing a preform with projections on one surface of said preform;

b.) actuating selected intrinsic actuators by heating said individual intrinsic actuators above the Tg of said intrinsic actuators; and

c.) cooling said intrinsic members.

27. (Previously presented) The mold of claim 5, wherein the vinyl compound is a compound other than styrene.

28. (Previously presented) The mold of claim 27, wherein the mold further comprises a multifunctional crosslinking agent.

29. (Previously presented) The mold of claim 28, wherein the mold further comprises a modifying polymer

30. (Previously presented) The mold of claim 5, wherein said vinyl compound is vinyl neodecanoate, vinyl benzoate, vinyl propionate, vinyl stearate, a methylstyrene, 4-(vinyloxy)butyl stearate or a vinyl pyridine.

31. (Previously presented) The mold of claim 29, wherein said vinyl compound is vinyl neodecanoate, vinyl benzoate, vinyl propionate, vinyl stearate, a methylstyrene, 4-(vinyloxy)butyl stearate or a vinyl pyridine.

32. (Previously presented) The mold of claim 28, wherein the crosslinking agent is difunctional.

33. (Previously presented) The mold of claim 32, wherein the crosslinking agent is divinyl benzene, bis(4-(vinyloxy)butyl)terephthalate or bis(4-(vinyloxy)methyl)cyclohexyl)methyl terephthalate.

34. (Previously presented) The mold of claim 29, wherein said modifying polymer is a thermoplastic polymer compatible with said polymer formed by the reaction product of said styrene andsaid vinyl compound.

35. (Previously presented) The mold of claim 32, wherein said vinyl compound is a vinyl neodecanoate and said difunctional crosslinking agent is divinyl benzene.

36. (Previously presented) An ophthalmic mold comprising a shape memory polymer reaction mixture comprising about 30 to about 95 percent styrene, about 5 to about 60 percent vinyl compound, about 0.5 to about 5 percent of a difunctional crosslinking agent, wherein said percentages being about weight based on the total weight of the mixture.

IN THE SPECIFICATION

The following amendment to the specification was made in the response filed June 18, 2004. The amendment was technically not in proper format as it was not listed on a separate sheet of paper from other amendments. In order to ensure its entry, and for the ease of the printer, it has been reproduced below:

Replace the paragraph beginning at page 7, line 1, with the following rewritten paragraph:

--Although the above discussed shape memory polymers are within the contemplation of the present invention, it is preferred that the shape memory polymer, employed in the formation of the contact lens of the present invention, be a new SMP, a copolymer of styrene and a vinyl compound other than styrene. This SMP is described in copending and concurrently filed application, ~~VTN-576~~ United States Application No. 10/056,590, which is incorporated herein by reference.--

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald Heckenberg whose telephone number is (571) 272-1131. The examiner can normally be reached on Monday through Friday from 9:30 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at (571) 272-1151. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

7/29/04
Donald Hackenberg
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JAMES P. MACKEY
PRIMARY EXAMINER
8/5/04